

**Louisiana Environmental Action Network  
P. O. Box 66323  
Baton Rouge, LA 70896**

**Subject: Chloroprene PBPK Peer Review  
Incorporation of in vitro metabolism data in a physiologically based  
pharmacokinetic (PBPK) model for chloroprene**

**Docket: EPA-HQ-ORD-2020-0181**

**Chloroprene PBPK Peer Review**

Date: August 21, 2020

By Wilma Subra subracom@aol.com

Technical Director of LEAN

On Behalf of Louisiana Environmental Action Network and the Concerned Citizens of St. John, the following comments are submitted in opposition to the PBPK model and the incorporation of the in vitro metabolism data in the PBPK model for Chloroprene.

**DuPont Pontchartrain Works/Denka Performance Elastomer-  
Chloroprene**

**1969** – DuPont began manufacturing Chloroprene and Neoprene at the Pontchartrain Works facility and releasing Chloroprene into the air – for the next 51 years. Chloroprene has been released into the air and contaminated the ambient air in Reserve/LaPlace since 1969.

**1941-2008** – DuPont Rubbertown Neoprene Facility, Louisville, KY. was the largest releaser of Chloroprene into the air in the United States, until the facility was shut down in 2008. The DuPont Pontchartrain Works manufactured Chloroprene and shipped the Chloroprene to the DuPont Rubbertown facility where it was used to manufacture Neoprene.

DuPont LaPlace applied to the LA Air Control Commission on June 2, 1972 to expand their Chloroprene facilities production capacity. Additional expansions in production capacities have occurred at various times over the years including when DuPont increased the production capacity at the Pontchartrain facility when they closed their Louisville/Rubbertown facility. The DuPont Pontchartrain Works then became the largest Chloroprene emitter into the air in the United States and became the only Neoprene industrial manufacturing facility in the US.

**November 1, 2015** – Denka Performance Elastomers, LLC purchased the DuPont Pontchartrain Works Neoprene Facility which included the Chloroprene Unit, Neoprene Unit, HCL Unit and Utilities.

**December 2015** –EPA released the 2011 National Air Toxics Assessment (NATA). NATA classified Chloroprene as a likely human carcinogen and established the long-term cancer based comparison level of 100 in 1 million cancer risk comparison level as **0.2 ug/m<sup>3</sup>** for Chloroprene. EPA and NATA determined Chloroprene was being emitted into the air at concentrations that gave the census tracts in St. John the Baptist the highest risk of cancer in the US from Chloroprene air pollution.

EPA calculated the Chloroprene Cancer Risk for each census tract in St. John the Baptist Parish and determined that one census tract was 800 times the national average (0.968) for cancer risk associated with exposure to Chloroprene. The two census tracts in which Denka is located has the highest cancer risk, 776.8 and 426.6 cancer risk per one million individuals. The other census tracts in St. John ranged from 51.7 to 426.6 in one million cancer risk associated with exposure to Chloroprene (53.5 to 440 times the national average for cancer risk).

## Chloroprene Cancer Risk

St. John the Baptist Census Tracts	Risk per 1 Million Individuals
708 Includes Most of Denka Facility	776.8
709 Includes Part of Denka Facility	426.6
705 North of 708 and 709	327
707 Upriver from 708	235.5
700	209.4
704	164.8
703	142.8
702	88.9
701	60.7
706 Garyville	51.7

NATA estimated higher than expected levels of Chloroprene in the community of LaPlace. NATA/EPA also identified the DuPont/Denka facility as creating the greatest offsite risk of cancer of any manufacturing facility in the US.

Chloroprene is known to increase the risk of cancer in humans associated with liver, lung, kidney and colon cancer and leukemia.

**Spring 2016**-EPA and Louisiana DEQ began sampling the air in the area around the Denka facility for Chloroprene. EPA and DEQ developed a long-term air monitoring plan to measure Chloroprene at six locations in the community.

**May 18, 2016** - EPA conducted a site visit at Denka to gather information on the processes and air pollution controls at the facility. The information gathered was to be utilized to develop an information request to require additional emissions testing at the facility as part of the EPA's risk and technology review of the Polymer Air Resins MACT.

**May 25, 2016-** EPA began air monitoring for Chloroprene at six locations around the Denka facility, in the residential areas and at schools, every three days for 24 hours. The monitoring demonstrated the presence of Chloroprene in the ambient air as high as 765 times 0.2 ug/m<sup>3</sup>

Chloroprene is the chemical released in the largest quantities from the DuPont /Denka facility. Toluene, a teratogen (malformation of embryo), is the second largest quantity of chemical released by the DuPont/Denka facility. In addition to Chloroprene and Toluene, 26 additional chemicals are also released into the air.

A large number of air emission sources and units release Chloroprene and Toluene into the air from the DuPont/Denka facility. These emissions of Chloroprene/ Toluene impact the ambient air quality in the community.

**June 2016-** EPA's National Enforcement Investigation Center (NEIC) conducted a focused Clean Air Act Inspection at the Chloroprene Unit, Neoprene Unit and HCl Recovery Unit at the Denka facility from June 6 through 10, 2016 to evaluate compliance with the Clean Air Act MACT standards, permit requirements and identify potential unregulated sources of Chloroprene emissions.

**July 7, 2016-**EPA, DEQ, Louisiana Department of Health, Denka and the Parish Council president held a community meeting in Reserve at Our Lady of Grace Gymnasium, to inform the community of the issues associated with Chloroprene, the Denka facility releasing Chloroprene into the air, the NATA determination concerning Chloroprene as a likely carcinogen, the results of the initial air monitoring for Chloroprene in Reserve and the proposed air monitoring to be conducted in Reserve. At that meeting Dr. Brown, Secretary of DEQ, indicated there would be three ways to potentially reduce Chloroprene air emissions in the community. Shut the Denka facility down, cut production of Chloroprene or require the facility to install air emissions reduction technologies. **A representative of Denka then stated that Denka was challenging the NATA/IRIS approach to Chloroprene air emission concentrations of 0.2 ug/m<sup>3</sup>.**

**August 8, 2016** - Denka began collecting air samples for Chloroprene and Toluene from five locations around the Denka facility, once every six days. On October 26, 2016 Denka added a sixth sampling location, at the request of DEQ, on the west bank of the Mississippi River at Edgard.

### **October 3-4, 2016 Event**

Elevated Chloroprene and Toluene air emissions were detected by EPA and Denka. The EPA Chloroprene concentrations in the air on October 4, 2016 were 42.4 ug/m<sup>3</sup> at the Fifth Ward Elementary School, 37.4 ug/m<sup>3</sup> at Chad Baker, 26.8 ug/m<sup>3</sup> at the Mississippi River Levee and 24.9 ug/m<sup>3</sup> at St. John High School. The highest EPA air emission concentration, 42.4 ug/m<sup>3</sup> is 212 times 0.2 ug/m<sup>3</sup>. The Denka Chloroprene air emissions on 10/3/16 were 93.4 ug/m<sup>3</sup> at the Western Edge, 46.3 ug/m<sup>3</sup> at the Entergy Substation and 20.6 ug/m<sup>3</sup> at the Mississippi River Levee. The highest Denka Chloroprene air concentration of 93.4 ug/m<sup>3</sup> was 467 times 0.2 ug/m<sup>3</sup>. **Denka stated they had completely drained the Chloroprene storage tank into the air as part of a maintenance turnaround.**

**October 7, 2016** –Denka submitted to DEQ modeling of Chloroprene Air Emissions based on the refined modeling analysis for the years 2011 through 2015. The off-property impacts of Chloroprene were greater than the comparison guidelines, 0.2 ug/m<sup>3</sup> and extended upriver beyond Garyville, downriver to the spillway, across the Mississippi River on the west bank including Edgard, Tigerville, Gold Mine Plantation and Lucy and to the north including Airline Highway and north of Interstate 10. The Air Modeling identified the extensive areas encompassing the majority of the parish that are potentially impacted by Chloroprene ambient air concentrations in excess of 0.2 ug/m<sup>3</sup>.

**October 11, 2016-** DEQ Secretary Chuck Carr Brown stated in a letter to the Public School System of St. John that the EPA “monitoring has detected Chloroprene at sites near the Denka facility. The DEQ has requested that Denka begin reducing the Chloroprene emissions observed in ambient air monitoring samples.”

**December 13, 2016**-Dr. Jimmy Guidry, state health officer for the Louisiana Dept. of Health spoke to the St. John the Baptist Parish Council on December 13, 2016. Dr. Guidry stated “when Chloroprene concentrations in the air spike, individuals in the surrounding area will experience acute symptoms such as burning eyes.” He further stated, “the community should not be exposed to Chloroprene.”

DEQ Secretary Brown stated “after several month of monitoring, six air testing sites in LaPlace showed spikes of Chloroprene levels. When you get a monitor that shows a spike, you also get a monitor the same day when the wind is blowing a different way that shows none detected.”

**January 6, 2017**-DEQ issued an Administrative Order on Consent (AOC) to Denka. Denka voluntarily agreed to the AOC and agreed to install four Chloroprene Emission Control Technologies by the end of each quarter of 2017. Denka voluntarily agreed to reduce Chloroprene emissions by 85% based on the 2014 emissions. Denka also agreed to continue to evaluate measures to further reduce Chloroprene emissions during the effective time period of the Administrative Order on Consent.

### **Denka’s Request to Withdraw, Suspend and Correct (Review and Revise) the IRIS Chloroprene (0.2 ug/m3)**

Ever since the EPA/DEQ meeting in Reserve on July 7, 2016, Denka has publicly stated they did not agree with the Chloroprene 0.2 ug/m3 and were challenging the 0.2 ug/m3.

**June 26, 2017**, Liskow and Lewis on behalf of Denka wrote a letter to the Environmental Protection Agency requesting correction, suspension and review and revision of the Integrated Risk Information System (IRIS) Toxicological Review of Chloroprene.

On the same date, June 26, 2017, Koki Tabuchi, President and Chief Executive Officer of Denka Performance Elastomer, LLC wrote a letter to Scott Pruitt the Administrator of EPA requesting the withdrawal and correction of the IRIS Review of Chloroprene.

- In the request by Liskow and Lewis the following were presented:
- The human inhalation unit risk should be withdrawn pending further IRIS review.
  - The classification of Chloroprene as a likely human carcinogen should instead be classified as chemical for which there is evidence only suggestive of human carcinogenicity.
  - The reference concentration for non-cancer inhalation exposure risks should be withdrawn pending further IRIS review.

The requests were based on Denka and Denka's consultants indicating EPA used flawed determinations concerning risk, good science not being applied, overly conservative calculations applied, flawed science being used, erroneous information and other reasons.

Denka stated based on Inhalation Unit Risk (IUR) and the Denka facility emission characteristics, the National Air Toxics Assessment (NATA) study erroneously identified **Denka's facility as associated with the highest offsite cancer risks of any chemical facility in the United States.**

**Denka's Inability to Meet the 0.2 ug/m<sup>3</sup> Target Ambient Air Concentration** -One of the numerous most interesting topics in the two letters were the following Denka statements:

**Even though Denka is installing the most advanced air pollution controls available, it will still not be able to meet the stringent 0.2 ug/m<sup>3</sup> target (Koki Tabuchi letter).**

Since acquiring the facility, Denka has committed to spend approximately \$18 million on pollution controls in order to reduce Chloroprene emissions by approximately 85% below the facility's 2014 emissions. However, these dramatic emission reductions may not be sufficient to satisfy EPA emission reduction requirements based on the erroneous Inhalation Unit Risk and the emission profile of the facility (Liskow & Lewis letter on behalf of Denka).

Denka's state-of-the-art emission reduction projects technologically cannot achieve this extraordinarily low ambient target (Liskow & Lewis letter on behalf of Denka).

Denka is installing state-of-the-art emission reduction devices at a capital cost of approximately \$18 million to decrease its chloroprene emissions. However, even these significant measures will not be sufficient to meet the 0.2 ug/m<sup>3</sup> ambient target, placing Denka's future viability at risk (Liskow & Lewis letter on behalf of Denka).

Even though Denka is installing the most advanced air pollution controls available, Denka still will not be able to meet the stringent 0.2 ug/m<sup>3</sup> target (Liskow & Lewis letter on behalf of Denka).

**September 8, 2017- Objections to Request for Correction,** On September 8, 2017, on behalf of a group of concerned residents and leaders in a community which continues to be adversely affected by the harmful contaminants emitted by Denka in the area surrounding its chemical plant in LaPlace, LA, Objections to Denka Performance Elastomer LLC Request for Corrections was submitted to the Environmental Protection Agency. The Objections were prepared by two Ph.D.'s and a Medical Doctor.

Note: EPA National Center for Environmental Assessment (NCEA) scientists who prepared the 2010 IRIS Assessment had declined Denka's August 2016 request to reconsider the agency's Chloroprene research methodology and conclusions.

EPA's Response to The Advocate's request for comments in Relation to Denka's Request for Correction – During the EPA's Review Stage EPA takes issue with the conclusion that the science is shaky. The predictions about Chloroprene's health effects are "based on very strong scientific studies." The EPA's conclusions "underwent very extensive review" by experts within the agency and independent expert peer reviewers.



## **EPA's Response to Denka's June 26, 2017, Request for Correction**

On January 25, 2018, EPA responded to Denka's Request for Correction in a letter to Liskow & Lewis representing Denka Performance Elastomer.

The EPA received the Denka Performance Elastomer Request for Correction in a letter received by the EPA on June 26, 2017.

The Denka Request for Correction requests the IRIS Chloroprene assessment be corrected in three ways:

1. The EPA-derived inhalation unit risk be replaced with a value derived by Rambol Environ or withdrawn.
2. The EPA cancer classification of Chloroprene as a "likely" human carcinogen be classified instead as a "suggestive" human carcinogen."
3. The EPA derived Reference Concentration be withdrawn pending further IRIS review.

The Request for Correction letter indicates, as an alternative, that the EPA immediately withdraw the IRIS IUR and RFC values pending further review.

## **Conclusion of EPA Letter of January 25, 2018**

The EPA, after careful review of the Request for Correction submitted by Denka, has concluded that the underlying information and conclusions presented in the Toxicological Review of Chloroprene In Support of Summary Information of the Integrated Risk Information System (IRIS) are consistent with the EPA's Information Quality Guidelines.

The denial letter also contains Attachment 1, US EPA Response to the Denka Performance Elastomer Request for Corrections of the Toxicological Review of Chloroprene in Support of Summary Information on the Integrated Risk Information System (IRIS) (9 pages) and Attachment 2 Systematic Review of Chloroprene Studies Published Since 2010 IRIS Assessment to Support Consideration of Denka Request for Correction (47 pages).

## **National Academy of Sciences IRIS Meeting**

A National Academy of Sciences IRIS (Integrated Risk Information System) meeting was held on February 1 and 2, 2018, to review the IRIS program recent progress. Sharon Lerner of the Intercept covered the meeting. A former EPA regional administrator stated “The attacks on IRIS have reached a new level over the past year. The program that assesses the likelihood that various chemicals cause cancer and other diseases is facing some of the most intense and sustained pressures in the history of this agency.”

According to the article, “IRIS had to recently revisit one completed assessment. The chemical in question, Chloroprene, has been polluting the air of a community in Louisiana for decades. Because of a 2010 IRIS evaluation of Chloroprene, the people of St. John the Baptist, which is just across a fence from a factory that emits Chloroprene, learned that they had by far the highest risk of cancer in the country from air pollution.”

Rambo Environ, a scientific consulting company that has been paid by both Denka and DuPont, asked IRIS to review its evaluation of Chloroprene. The week before the NAS meeting, IRIS denied the request to tailor the evaluation of the chemical to its manufacturers liking. The EPA’s response included detailed explanation of the scientific evidence supporting their denial and 36-page review of Chloroprene studies that have come out since the initial evaluation.

According to an EPA official who worked on the assessment, “the response ate up considerable staff time. We killed ourselves. But it was our firm response that you can’t change the science just because you don’t like the answers.”

**July 23, 2018**-On behalf of Denka, Robert E. Holden submitted a third request for reconsideration to the Environmental Protection Agency.

**August 22, 2018**-EPA's 2014 National Air Toxics Assessment (NATA) dealing with Ethylene Oxide was released. Louisiana has 13 facilities releasing Ethylene Oxide into the air. The number two ranking air emissions facility of Ethylene Oxide in the US is Union Carbide in Hahnville, St. Charles Parish. St. John the Baptist has one facility, Evonik Materials, releasing Ethylene Oxide. As a result of Ethylene Oxide air emissions from Union Carbide and Evonik Materials, all 11 census tracts in St. John the Baptist parish has cancer risks over 100 per one million individuals and are high enough to trigger the EPA's concern.

Ethylene Oxide has been on the federal list of carcinogens since 1985. In December 2016, EPA released a reassessment linking it more conclusively to breast and blood cancer.

### **Request for Corrections – Ethylene Oxide**

**September 20, 2018**-The American Chemical Council submitted a Request for Correction to EPA concerning the 2014 NATA Ethylene Oxide determination. The American Chemistry Council represents producers and users of Ethylene Oxide. The American Chemistry Council seeks the correction of Ethylene Oxide information disseminated in the 2014 update to the National Air Toxics Assessment released on August 22, 2018. The ACC states the 2014 National Air Toxics Assessment Risk estimates for Ethylene Oxide should be withdrawn and corrected scientifically to support risk values.

## **EPA Air Sample Results Covering the Sampling Period May 25, 2016 Through December 2018**

### **Highest Levels of Chloroprene by Sampling Location by Year**

<b>Location</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Fifth Ward Elementary	66.4 ug/m3	151 ug/m3	57.7 ug/m3
238 Chad Baker	46.1 ug/m3	70 ug/m3	37.4 ug/m3
Miss. River Levee	147 ug/m3	35.8 ug/m3	98.7 ug/m3
Acorn and Hwy 44	153 ug/m3	17.3 ug/m3	77.3 ug/m3
Ochsner Hospital	66.7 ug/m3	89.2 ug/m3	41.0 ug/m3
East St. John Hi S.	24.9 ug/m3	39.5 ug/m3	30.3 ug/m3

**The highest Chloroprene air emissions at each of the six sampling locations in each year are far in excess of 0.2 ug/m3. The 2018 Chloroprene concentrations collected by EPA are 150 to 500 times the 0.2 ug/m3 concentration. The 2018 Chloroprene concentrations collected by Denka are 32 to 407 times the 0.2 ug/m3 concentration.**

### **DEQ Letter to EPA Concerning the Denka Chloroprene Request for Corrections**

On December 17, 2018, Chuck Carr Brown of DEQ sent a letter to Mr. Henry Darwin, Chief of Operations of the EPA in Washington, DC. The letter stated, "The LA DEQ has been in communication with the US EPA , Office of Environmental Information and Office of Research and Development concerning the re-evaluation of the Chloroprene Inhalation Unit Risk (IUR) using the Physiologically-based pharmacokinetics (PBPK) model. As this issue is of great importance to the state of Louisiana, DEQ appreciates EPA's efforts and look forward to working with EPA to plan an appropriate path forward as soon as this process has been completed."

On February 21, 2019, EPA send an email to Chuck Carr Brown with a copy of the latest letter to Denka regarding their Request for Reconsideration. The letter was dated February 12, 2019 and was from Vaughn Noga, the Deputy Assistant Administrator for Environmental Information and Chief Information Officer of EPA in Washington, DC. The letter was addressed to Mr. Patrick A. Walsh of Denka Performance Elastomer LLC. The letter stated, "The US EPA's interim response, issued on November 1, 2018, requested that any additional information supporting your request be submitted to EPA by February 1, 2019. This response acknowledges EPA's receipt of the email from Robert Holden that was submitted on DPE's behalf on February 1, 2019, containing information in support of your request. If DPE wishes to submit any additional information relevant to this RFR, it should be submitted no later than May 1, 2019. In accordance with EPA's Information Quality Guidelines (IQG), EPA will review and assess this information and convene an IQG Executive Panel to reconsider EPA's response to your original request for correction. Under EPA's IQG, this Executive Panel makes the final decision on the RFR. EPA will provide DPE with a status update on this RFR by June 7, 2019, which is 90 business days from the Agency's receipt of DPE's supplemental information on February 1, 2019. "

### **St. John the Baptist Parish School Board Letter to Dr. Chuck C. Brown**

On March 12, 2019 the St. John the Baptist Parish School Board wrote a letter to Dr. Chuck C. Brown, Secretary of DEQ. The letter was stamped as being received by DEQ on March 26, 2019.

The letter stated "the St. John the Baptist Parish School Board requests that LDEQ do whatever is necessary to compel Denka and Dupont to immediately take what ever action is necessary to reduce the emissions of chloroprene from their chemical plant to at or below the EPA's upper limit of acceptability, which is at or below 0.2 ug/m3. You have the authority to close the plant if that is the only way for our children to breathe clean air."

**Washington, DC March 27, 2019**

**National Emission Standards for Hazardous Air Pollutants:  
Hydrochloric Acid Production Residual Risk and Technology Review**

On March 27, 2019 the Environmental Protection Agency in Washington, DC held a public hearing on the National Emission Standards for Hazardous Air Pollutants: Hydrochloric Acid Production Residual Risk and Technology Review, Docket ID: EPA-HQ-OAR-2018-0417.

Wilma Subra provided testimony on behalf of Louisiana Environmental Action Network and the Environmental Justice Community Members and EJ Organizations in Louisiana who live and work in the communities that are adjacent to and in close proximity to the six industrial facilities in Louisiana with Hydrochloric Acid Production Units, the 13 Industrial Facilities releasing Ethylene Oxide into the air and DuPont/Denka facility releasing Chloroprene into the air.

In the data associated with the hearing, EPA focused on 19 industrial facilities with Hydrochloric Acid Production Units that burn hazardous waste in 11 states. Louisiana has the largest number of Hydrochloric Acid Production Units, six. The other 10 states (Alabama, California, Illinois, Kentucky, Michigan, New Jersey, New York, Ohio, Texas and West Virginia) have one or two Hydrochloric Acid Production Units per state. The six Louisiana industrial facilities listed with Hydrochloric Acid Production Units are:

**Ascension Parish**

BASF Corp., Geismar  
Rubicon LLC, Geismar  
Honeywell International , Geismar

**Iberville Parish**

Blue Cube Operations, LLC,

**East Baton Rouge Parish**

Honeywell International Inc., Baton Rouge

**St. Charles Parish**

Nexion Inc., Norco

Missing from inclusion on the list is the Denka Performance Elastomer LLC facility in St. John the Baptist Parish. Denka has a Hydrochloric Acid Production Furnace (HAPF) at the Denka's Pontchartrain Plant in LaPlace/Reserve that is subject to the National Emission Standards for Hazardous Air Pollutants for Hazardous Waste Combustors (HWC NESHAP). The Denka facility releases more than 19,000 pounds of Hydrochloric Acid into the air each year.

### **Chloroprene Air Emissions in June 2020**

#### **Chloroprene and Neoprene Production Rate in June 2020 by Denka Performance Elastomer**

<b>Chloroprene Unit Production</b>	<b>0 pounds</b>
------------------------------------	-----------------

<b>Neoprene Unit Production</b>	<b>605,168 pounds</b>
---------------------------------	-----------------------

Even when Chloroprene was not being produced at the Denka facility during June 2020, Chloroprene continued to be released into the air from Neoprene Unit production, Storage Vessel containing Chloroprene and fugitive air emission sources.

Chloroprene produced in May 2020 and before, at the Denka facility and stored on site, continues to be used to produce Neoprene and continues to be released into the air from the Neoprene Unit, Chloroprene storage vessel and fugitive sources during June 2020.

## Denka Chloroprene (ug/m3) Air Sampling During June 2020

	Date			Locations		
	1	2	3	4	5	6
6-3-20	<b>0.4</b>	ND	<b>0.3</b>	0.3	ND	ND
6-8-20	ND	ND	ND	ND	ND	ND
6-12-20	ND	ND	ND	0.5	ND	ND
6-17-20	0.2	<b>0.2</b>	ND	<b>1.4</b>	<b>0.3</b>	ND
6-22-20	ND	ND	ND	ND	ND	ND
6-26-20	ND	ND	ND	ND	ND	ND

1 Eastern Boundary, Entergy Subst.

2 Intersection Hwy 44 and IC Railroad

3 Western edge of Denka property

4 Mississippi River Levee

5 Southwest Corner of Hospital

6 Edgard, St. John Court House

## Toluene (ug/m3)

	Date			Locations		
	1	2	3	4	5	6
6-3-20	4.1	3	<b>4</b>	3.6	2.4	2.3
6-8-20	ND	ND	ND	ND	2.8	ND
6-12-20	ND	ND	2.2	<b>10.9</b>	ND	ND
6-17-20	<b>4.3</b>	<b>4.9</b>	3.5	<b>10.4</b>	<b>4.9</b>	<b>2.9</b>
6-22-20	2	1.9	ND	ND	ND	2.3
6-26-20	2.3	3.1	2.6	3.4	2.4	2.4

1 Eastern Boundary, Entergy Subst.

2 Intersection Hwy 44 and IC Railroad

3 Western edge of Denka property

4 Mississippi River Levee

5 Southwest Corner of Hospital

6 Edgard, St. John Court House



## **Chloroprene**

Denka detected Chloroprene in the air during June 2020 during three of six sampling events, June 3, June 12 and June 17, 2020, while Denka was not producing Chloroprene.

### **June 3, 2020**

Chloroprene was detected at three of the six monitoring stations around the Denka facility. The concentrations of Chloroprene ranged from 0.3 ug/m<sup>3</sup> to 0.4 ug/m<sup>3</sup>. The highest Chloroprene concentration was detected at the Entergy Substation, Northwest of the Denka facility, 0.4 ug/m<sup>3</sup>.

The second highest Chloroprene air concentrations was 0.3 ug/m<sup>3</sup> at the Western edge of the Denka property and the Mississippi River Levee adjacent to the southern portion of the Denka facility.

The wind was calm during the air sampling period of June 3, 2020.

### **June 12, 2020**

Chloroprene was detected at one location by Denka. Chloroprene was detected in the air at 0.5 ug/m<sup>3</sup> at the Mississippi River Levee monitoring location. The wind was a light breeze to the South at set up and light breeze to the Southwest at collection.

### **June 17, 2020**

Chloroprene was detected at four of the six monitoring locations during June 17, 2020, and ranged from 0.2 to 1.4 ug/m<sup>3</sup>. The highest Chloroprene concentration in the air during June 17, 2020 was detected at the Mississippi River Levee monitoring location, 1.4 ug/m<sup>3</sup>. The wind during the sampling was a light breeze to the South at set up and light breeze to the Southeast at collection. The closest monitoring location to the Denka facility, during the wind conditions, was the Mississippi River Levee location.

The other three locations where Chloroprene was detected on June 17, 2020 were the Hospital – 0.3 ug/m<sup>3</sup>, Entergy Substation – 0.2 ug/m<sup>3</sup> and Hwy 44 & ICRR – 0.2 ug/m<sup>3</sup>. The monitoring locations were North, Northwest and West of the Denka facility.

## **Toluene**

Even with Chloroprene not being produced during the month of June 2020 from the Denka facility, Toluene continued to be released into the air. Toluene was detected at every one of the six monitoring locations and during each of the six monitoring periods.

Toluene was detected at each of the six air monitoring locations during three of the six air monitoring periods, June 3, 2020 (2.3 to 4.1 ug/m<sup>3</sup>), June 17, 2020 (2.9 to 10.4 ug/m<sup>3</sup>) and June 26, 2020 (2.3 to 3.4 ug/m<sup>3</sup>).

The highest concentration of Toluene in the air was detected on June 12, 2020 at the Mississippi River Levee monitoring location, 10.9 ug/m<sup>3</sup> and on June 17, 2020 10.4 ug/m<sup>3</sup>, also at the Mississippi River Levee monitoring location. The wind was a light breeze to the South at set up and light breeze to the Southwest at collection on June 12, 2020. The wind was a light breeze to the South at set up and light breeze to the Southeast at collection on June 17, 2020.

## **Benzene, Ethylbenzene, Xylene**

The Volatile Organic Compounds Benzene, Ethylbenzene and Xylene were not detected during June 2020 by Denka.

## EPA Chloroprene Air Sampling During June 2020 (ug/m3)

Date	Locations					
	1	2	3	4	5	6
6-4-20	<b>0.740</b>	0.0475	<b>0.359/0.351</b>	0.0816	0.0598	0.0508
6-10-20	ND	0.0268	0.0305/0.0326	ND	0.0192	0.0076
6-16-20	0.0682	<b>1.58</b>	ND	<b>0.272/0.275</b>	<b>0.805</b>	<b>1.08</b>
6-22-20	0.0236	0.0189	0.0116/0.0287	0.0149	0.0156	0.0472
6-28-20	ND	ND	0.112/0.112	ND	ND	ND

1 Chad Baker	4 Fifth Ward Elementary School
2 Acorn & Hwy 44	5 Mississippi River Levee
3 East St. John High School	6 Ochsner Hospital

## EPA Air Monitoring for Chloroprene in June 2020

In June 2020, when Denka was not producing Chloroprene during the entire month, Chloroprene in the ambient air was detected during each of the five sampling periods and at each of the six EPA air sampling location.

Chloroprene in the ambient air occurred in excess of 0.2 ug/m3 during June 2020 at each of the six sampling locations.

The highest Chloroprene ambient air concentration in June 2020 occurred at Acorn & Hwy 44 on June 16, 2020 (1.58 ug/m3). That value was 7.9 times 0.2 ug/m3. On the same date, June 16, 2020 ,the highest Chloroprene ambient air concentrations occurred at four of the six monitoring locations.

Acorn & Hwy 44	1.58 ug/m3
Fifth Ward School	0.272/0.275 ug/m3
Mississippi River Levee	0.805 ug/m3
Ochsner	1.08 ug/m3.

The other two air monitoring locations had the highest ambient air Chloroprene concentrations on June 4, 202, 0.740 ug/m<sup>3</sup> at Chad Baker and 0.359/0.351 ug/m<sup>3</sup> at East St. John Hi School, the greatest distance from the Denka facility. The values were 3.7 and 1.8 times 0.2 ug/m<sup>3</sup>.

Chloroprene was detected in the air at 22 of the 30 monitoring locations and monitoring periods by the EPA in June 2020. Denka only detected Chloroprene at 8 of 36 air monitoring locations and monitoring periods in June 2020.

Chloroprene was detected above 0.2 ug/m<sup>3</sup> in June 2020, when Chloroprene was not being produced, at 6 of the 30 EPA air monitoring events and at 6 of 36 Denka air monitoring events.

The EPA Chloroprene concentrations in the air in June 2020 ranged from detectable levels of 0.0076 ug/m<sup>3</sup> at Ochsner to 1.58 ug/m<sup>3</sup> at Acorn & Hwy 44.

The Denka Chloroprene concentrations in June 2020 ranged from detectable levels of 0.2 ug/m<sup>3</sup> at the Entergy Substation and Hwy 44 & ICRR to 1.4 ug/m<sup>3</sup> at the Mississippi River Levee. Six of the eight Denka Chloroprene values in June 2020 exceeded 0.2 ug/m<sup>3</sup> and two Chloroprene values equaled 0.2 ug/m<sup>3</sup>.

**These values occurred when Chloroprene was not being produce, but continued to be released from fugitive sources, storage vessels and production of Neoprene.**

### **Denka Report to DEQ on Fenceline Monitoring Results Package – June 2020**

Denka submits the Fenceline Monitoring Results Package to DEQ on a monthly basis. Denka stated in the cover letter to the monthly submittal “ DPE (Denka) will continue to perform monitoring for the time being and will provide regular reports describing the results to the Department.”

“Overall, sample results for chloroprene remain much lower than the currently established air quality standard of 857 ug/m<sup>3</sup>. The overall

average since sampling began in August 2016, continues to decline as the site's emission reduction projects are optimized, averaging 2.47 ug/m<sup>3</sup> during the entire monitored period. The monthly average results for June was 0.10 ug/m<sup>3</sup>, the lowest on record."

The statement **"The monthly average results for June was 0.10 ug/m<sup>3</sup>, the lowest recorded"** is contained in the cover letter. It is not until you get to page 8 of the 115 page document that you find out the Chloroprene Unit Production rate for June 2020 was **Zero Pounds**.

The lack of production of Chloroprene during June 2020 is the reason the monthly average for Chloroprene air emissions was the lowest on record, 0.10 ug/m<sup>3</sup>.

### **Chloroprene Monthly Average**

Denka calculates a monthly average for Chloroprene each month. The following are the monthly averages for 2020.

Date	Monthly Average
January 2020	0.5 ug/m <sup>3</sup>
February 2020	0.55 ug/m <sup>3</sup>
March 2020	0.25 ug/m <sup>3</sup>
April 2020	0.64 ug/m <sup>3</sup>
May 2020	0.78 ug/m <sup>3</sup>
June 2020	0.10 ug/m <sup>3</sup> *

\*The lowest on record – due to Chloroprene not being produced during June 2020.

With the exception of the June 2020 average, which was low due to the lack of production of Chloroprene in the entire month of June 2020, the monthly averages for Chloroprene in 2020 still exceed 0.2 ug/m<sup>3</sup> and have increased from March (0.25 ug/m<sup>3</sup>) through May (0.78 ug/m<sup>3</sup>). The May 2020 monthly average exceeds 0.2 ug/m<sup>3</sup> by 3.9 times.

**The highest monthly average Chloroprene concentration during 2020**, with the exception of June, 0.78 ug/m3 in May 2020 occurred when the Chloroprene and Neoprene production rates were the lowest in 2020.

### **Chloroprene and Neoprene Production Rates**

Denka reports production rates for Chloroprene and Neoprene on a monthly basis. The monthly production rates for 2020 are as follows:

#### **Chloroprene**

January 2020	5,017,000 pounds
February 2020	4,693,000 pounds
March 2020	3,751,000 pounds
April 2020	4,432,000 pounds
May 2020	2,737,000 pounds
June 2020	0 pounds

#### **Neoprene**

January 2020	5,020,449 pounds
February 2020	5,249,222 pounds
March 2020	3,974,709 pounds
April 2020	4,795,791 pounds
May 2020	3,664,546 pounds
June 2020	605,168 pounds

It appeared the production rate of Chloroprene and Neoprene were reduced by 61% and 23%, respectively during the month of May.

Chloroprene was not produced during the month June 2020 and Neoprene production was reduced by 83% in June compared to May 2020.

## MAY 2020

In May 2020 (the month prior to the 0 pounds of Chloroprene production in June 2020) Chloroprene production was 2,737,000 pounds and Neoprene production was 3,664,546 pounds. Both production rates were the lowest until that point during 2020.

### EPA Chloroprene Air Sampling During May 2020 (ug/m3)

Date	Locations					
	1	2	3	4	5	6
5-5-20	0.424	<b>0.182</b>	0.198/0.188	1.33	0.827	0.134
5-11-20	0.170	ND	ND	0.220	<b>2.12/2.16</b>	ND
5-17-20	ND	ND	<b>0.277/1.32</b>	ND	ND	<b>1.34</b>
5-23-20	0.0167	ND	0.325/0.49	0.0501	0.0229	0.0134
5-29-20	<b>1.40</b>	0.0377	<b>1.15/1.26</b>	<b>1.56</b>	1.32	0.0555

1 Chad Baker

2 Acorn & Hwy 44

3 East St. John High School

4 Fifth Ward Elementary School

5 Mississippi River Levee

6 Ochsner Hospital

## Denka Chloroprene (ug/m3) Air Sampling During May 2020

Date	Locations					
	1	2	3	4	5	6
5-1-20	<b>1.3</b>	0.6	0.3	0.4	<b>1.3</b>	ND
5-6-20	ND	ND	1.1	2.9	ND	0.2
5-11-20	0.6	ND	<b>9.6</b>	ND	ND	0.8
5-15-20	0.5	ND	ND	ND	ND	ND
5-20-20	0.7	ND	0.2	ND	ND	<b>2.3</b>
5-24-20	ND	ND	ND	ND	ND	ND
5-29-20	ND	<b>0.8</b>	4.9	<b>5</b>	1	0.2

1 Eastern Boundary, Entergy Subst.

2 Intersection Hwy 44 and IC Railroad

3 Western edge of Denka property

4 Mississippi River Levee

5 Southwest Corner of Hospital

6 Edgard, St. John Court House

## Toluene (ug/m3)

Date	Locations					
	1	2	3	4	5	6
5-1-20	ND	2	ND	ND	ND	ND
5-6-20	ND	ND	ND	5.4	ND	ND
5-11-20	ND	ND	3.2	ND	ND	ND
5-15-20	ND	ND	ND	ND	2	ND
5-20-20	2.5	4.4	2.8	3.7	<b>3.4</b>	2
5-24-20	ND	ND	ND	ND	ND	ND
5-29-20	<b>3.2</b>	<b>4.6</b>	<b>3.7</b>	<b>6.2</b>	<b>3.4</b>	<b>7.3</b>

1 Eastern Boundary, Entergy Subst.

2 Intersection Hwy 44 and IC Railroad

3 Western edge of Denka property

4 Mississippi River Levee

5 Southwest Corner of Hospital

6 Edgard, St. John Court House



## Chloroprene

During the May 2020 low production rate, EPA Air Monitoring detected Chloroprene in the air during 22 of 30 air sampling events. The highest Chloroprene air concentration detected by EPA was 2.16 ug/m<sup>3</sup> at the Mississippi River Levee on May 11, 2020. Chloroprene was detected at all six air monitoring locations during two of five sampling dates, May 5, 2020 and May 29, 2020.

During May 2020, Denka's highest Chloroprene air concentration was 9.6 ug/m<sup>3</sup> on May 11, 2020 at the Western Edge of the Denka property. The wind was a light breeze to the West. The next highest Chloroprene concentration was detected at the Mississippi River Levee location on May 29, 2020, 5 ug/m<sup>3</sup>. The wind was a light breeze to the South. On the same date, the highest Chloroprene air concentration occurred at the intersection of Hwy 44 & ICRR, 0.8 ug/m<sup>3</sup>.

On May 1, 2020, the highest Chloroprene concentration was detected at the Entergy Substation and Hospital, 1.3 ug/m<sup>3</sup>. The wind was a light breeze to the North at set up and light breeze to the Northwest at collection. Edgard experienced its highest Chloroprene concentration on May 20, 2020, 2.3 ug/m<sup>3</sup>. The wind was calm at set up and light breeze to the North at collection.

## Toluene

The Toluene air concentrations were the highest at all six monitoring locations on May 29, 2020. The Toluene concentrations ranged from 3.2 ug/m<sup>3</sup> to 7.3 ug/m<sup>3</sup> at Entergy Substation and Edgard, respectively.

7.3 ug/m <sup>3</sup>	Edgard
6.2 ug/m <sup>3</sup>	Mississippi River Levee
4.6 ug/m <sup>3</sup>	Intersection of Hwy 44 & ICRR
3.7 ug/m <sup>3</sup>	Western Edge of Denka Property
3.4 ug/m <sup>3</sup>	Southwest Corner of Hospital
3.2 ug/m <sup>3</sup>	Entergy Substation

The wind on May 29, 2020 was a light breeze to the South at set up and collection.

Toluene was also detected at all six monitoring location on 5-20-20. The Toluene ambient air concentrations ranged from 2 ug/m<sup>3</sup> at Edgard to 4.4 ug/m<sup>3</sup> at Hwy 44 & ICRR on 5-20-20. The wind was calm at set up and light breeze to the North at collection.

**REMEMBER even when Chloroprene is not being produced at the Denka Performance Elastomer facility, Chloroprene continues to be released into the air by the facility and Chloroprene continues to migrate offsite into the surrounding areas occupied by community members!**

The Chloroprene data for May and June of 2020 are examples of Chloroprene being present in the ambient air even when Chloroprene production is low or non-existent.

At the July 7, 2016 meeting in St. John the Baptist Parish, Secretary Chuk Carr Brown, of Louisiana Department of Environmental Quality, stated there were three ways to reduce the air emissions of Chloroprene, cut production of Chloroprene and Neoprene, shut the plant down or establish control technologies to reduce the emissions of Chloroprene. Even with the establishment of four control technologies, when Chloroprene was not being produced, Chloroprene continues to be released into the air and negatively impact community members in St. John the Baptist Parish.

The community members in St. John the Baptist Parish continue to be exposed to Chloroprene, Toluene and a host of more than 20 other toxic chemicals being released into the air on an ongoing basis by the Denka/previously DuPont facility. The cumulative impacts of the exposure to this large number of toxic chemicals makes the negative health risk even greater.

**African American community members in St. John the Baptist Parish would like you to hear from them directly.**

The residents of St. John the Baptist Parish have been breathing Chloroprene since 1956 and most people had no idea of the dangerous conditions we were living in.

Our medical examiner told me and the entire local governing body that no one should be breathing Chloroprene at any level.

Chloroprene attacks your body, organs and could cause brain damage to the point it affects your mental health and compromises our immune systems.

With COVID-19 on the loose, we do not stand a chance living under these conditions.

St. John the Baptist Parish ranked #1 in the United States in death per capita (per 100,000 residents) in April 2020, due to COVID-19.

Dr. Jimmy Guidry, State Health Officer of the Department of Health in Louisiana stated “the community should not be exposed to Chloroprene.” However, the community in St. John the Baptist Parish is being exposed to Chloroprene every day!

Just the idea of living my entire life near Dupont/Denka and finding out from the EPA that our whole community has been exposed to toxic emissions takes my breath away.

Cancer and autoimmune diseases have touched nearly every home in our neighborhood.

It is time for Denka/DuPont to stop poisoning us NOW.

Denka/Dupont should be a true neighbor to our community and following the EPA's emission suggestions of 0.2 ug/m<sup>3</sup> should be at the top of their priorities.

Any change to the 0.2 ug/m<sup>3</sup> would give Denka/DuPont permission to poison us even more.

Denka does not care about the community and they continue to poison the people in the community.

As a person living in this community, I receive no benefits from Denka's profits. I only receive negative health impacts, illness, despair and the threat of death. Only 0.2 Will Do!

How many times does the EPA have to deny the request by Denka to reconsider 0.2 ug/m3.

EPA should make 0.2 ug/m3 an enforceable standard.

How many black people have to suffer and die?

Denka should be compelled to adhere to the science and do whatever else it takes to get and keep emissions down to a determined safe level for the community to live with.

Exposure should not be determined by bias opinions of industry. EPA and LA DEQ are bound by laws to protect the community and not the industry.

Scientific evidence should not be compromised.

The health of our community should come first.

Thank you for the opportunity to provide comments and information on the subject which is so critical to the health and safety of community members in St. John the Baptist Parish.

The Ramboll PBPK model should not be used to determine the risk associated with Chloroprene.

Our health is at risk due to exposure to Chloroprene.